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ABSTRACT

The impact of population trends upon teacher employment is examined. The growing and shrinking of school enrollment is discussed as it relates to trends in the nation's birth rate. The direct relationship of this phenomenon upon teacher shortage and over-supply and the employment prospects for teachers is considered. With currently declining birth rates, fewer persons will decide to enter the teaching profession, and this, it is suggested, will lead to future teacher shortages. Projections are made of the possibilities of a severe decline in qualified teachers in the decades ahead. (JD)

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PAST AND LIKELY FUTURE TRENDS IN THE LABOR MARKET FOR TEACHERS

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INTRODUCTION

A surplus of teachers emerged in the late 1960s and steadily worsened into the 1970s. Nearly a decade after the surplus appeared, colleges and universities are still turning out more teachers than are needed to fill the available vacancies and the number of teachers unemployed or employed in jobs that do not require their particular skills continues to grow. The apparent inability of the labor market for teachers to bring an end to the "waste" of trained teachers, and of the higher educational resources used to train them, raises the question of whether government intervention will be needed to alleviate the teacher surplus.

Our analysis suggests the surplus will soon peak, and then gradually decline, ending sometime in the mid-1980s. It also suggests that the processes operating to bring an end to the surplus will give rise to a teacher shortage soon thereafter. Given the inevitable lags between the adoption of a policy and its eventual impact, it is possible that interventions designed to stimulate the demand for teachers or to retard the supply of teachers will begin to make themselves felt only after the need for them has passed. They may even have the counterproductive effect of exacerbating the subsequent teacher shortage.

We begin with a brief summary of the demographic and educational policy context within which the market functions. We then consider the institutional factors which explain the market's ostensible immunity to the laws of supply and demand. We conclude with a discussion of the likely future performance of the market.

THE CONTEXT OF THE MARKET

The central feature of the demographic context is the roller coaster curve of the birth rate over the past half century. Birth rates declined sharply at the onset of the great depression and stayed low throughout the remainder of the 1930s and, then, the war years. Annual numbers of births over this fifteen year period were approximately 2.5 million. A baby boom followed hard on the heels of World War II. Births increased to annual levels of 3.6 to 4.3 million between 1947 and 1966. Thereafter, fertility measures began to decline sharply, signaling the onset of a baby bust and, by the early 1970s, births numbered 3.1 to 3.2 million annually.

"Peristalsis"--the spasmodic process by which a python swallows a pig--is an apt metaphor for how the United States is absorbing the sequence of baby bust/boom/bust. The most apparent feature of the population's age distribution is the baby boom bulge (persons age 10 to 28 in 1975) moving through successive age boundaries. The leading edge of this bulge (persons now in their late twenties) crowded the nation's elementary schools in the early 1950s, moved on to crowd the secondary schools in the early 1960s, and then overrun colleges and universities in the mid-1960s. (See Table 1.) Recently plummetting birth rates have left a relative dirth of children under about 10 years of age. For every 100 children under five years old in 1965 there were only 78 in 1975. This shrinkage began to effect elementary schools in the late 1960s and the secondary schools in the mid-1970s. Beginnning in the early 1980s, the numbers of persons in the traditional college-going age range (18-21) will diminish and continue to shrink through the mid-1990s.

In the meanwhile, the quality of education was becoming a major public policy concern. The Soviet Union's Sputnik launch focused national attention on the educational quality issue. A few years later, the War on Poverty formalized equality of educational opportunity--which, to most, meant improving the quality of the educational services provided to the poor and the disadvantaged--as a national objective.

The nation wanted to have better schools and was willing to pay the price. State and local supportof the public schools doubled between 1947 and 1955, doubled again in the next decade, and doubled again by 1970. Federal support grew from less than one billion dollars, in 1964, to about four billion dollars in 1970. Part of this growth was eaten up by inflation and part reflected the need to increase spending proportional to increases in enrollments. Nonetheless, there was substantial growth in the real financial resources made available for each student. (See Table 2.)

Educators (and most other people as well) have traditionally viewed class size as the primary indicator of educational quality. Thus, the teacher force had to grow at least as fast as enrollments if educational quality was to be maintained. Moreover, the demand for improvements in quality gave impetus to a drive for reductions in pupil-teacher ratios. Schools wanted, and had the resources to afford, more and more teachers.

Table 1

SCHOOL ENROLLMENT RATES BY AGE:
ALTERNATE YEARS, 1950-1974

YEAR	ENROLLMENT RATE (percent)				
	5 and 6 Years	7-13 Years	14-17 Years	18 and 19 Years	20-24 Years
1950	58.2	98.7	83.4	29.7	9.2
1952	54.7	98.8	85.2	28.8	9.7
1954	77.3	99.4	87.1	32.4	11.2
1956	77.6	99.3	88.2	35.4	12.8
1958	80.4	99.5	89.2	37.6	13.4
1960	80.7	99.5	90.3	38.4	13.1
1962	82.2	99.3	92.0	41.8	15.6
1964	83.3	99.0	93.1	41.6	16.8
1966	85.1	99.3	93.7	47.2	19.9
1968	87.6	99.1	94.2	50.4	21.4
1970	89.5	99.2	94.1	47.7	21.5
1972	91.9	99.2	93.3	46.3	21.6
1974	94.2	99.3	92.9	43.1	21.4

SOURCE: U.S. Bureau of the Census, Historical Statistics of the United States; Colonial Times to 1970, U.S. Government Printing Office, Washington, 1975, pp. 370-371. U.S. Bureau of the Census, Statistical Abstract 1975, U.S. Government Printing Office, Washington, 1975, p. 115.

Table 2

PUBLIC ELEMENTARY AND SECONDARY SCHOOL EXPENDITURES:
ALTERNATE YEARS, 1950-1974

YEAR	CURRENT EXPENDITURES			
	Total (in billions)		Per Pupil ADA	
	Current Dollars	Constant(1970) Dollars	Current Dollars	Constant(1970) Dollars
1950	4.7	7,5	209	333
1952	5.7	8.2	244	351
1954	6.8	9.5	265	372
1956	8.3	11.7	294	413
1958	10.3	13.6	341	451
1960	12.3	15.8	375	482
1962	14.7	18.5	419	526
1964	17.2	21.1	460	563
1966	21.1	25.0	537	636
1968	26.9	29.9	658	731
1970	34.2	34.2	816	816
1972	41.8	38.4	990	909
1974	48.1	39.0	1147	929

SOURCE: U.S. Bureau of the Census, Historical Statistics of the United States; Colonial Times to 1970, U.S. Government Printing Office, Washington, 1976, p. 89.

But the combination of rapidly increasing enrollments and the pressures for reductions in pupil-teacher ratios added up to more than the nation's teacher training institutions could handle. Enrollments in colleges and universities reflected the relatively small cohorts of the Depression and World War II years, and the relatively low postsecondary enrollment rates that characterized the 1950s. Postsecondary enrollments grew slowly throughout the 1950s and the production of new college graduates lagged even further.

At the same time, the demand for college graduates in all fields was skyrocketing. The 1950s and early 1960s saw rapid growth in the professions and in such industries as finance, insurance, chemicals, petroleum, electronics, and aircraft, whose workforce had traditionally accounted for a disproportionately large share of the jobs filled by college graduates. The expansion of demand for college educated workers was equally vigorous in the public sector. Moreover, the expansion of the higher educational system, which began in the late 1950s, demanded more college faculty, thereby stimulating expansion of post-graduate education. During most of the 1960s so many college graduates were channeled into postgraduate schools, that the proportion of college graduates among all new labor force entrants actually declined. Attractive job opportunities beckoned college graduates in all sectors of the economy and education was hard pressed to maintain its share of the small pool of college educated persons.

Small cohorts of college-age persons, low rates of postsecondary enrollment, and intense competition for college graduates combined to keep the rate of new teacher production well below that needed to satisfy the personnel objectives of the nation's elementary and secondary schools. Despite a 27 percent increase in the real resources available per pupil between 1956 and 1964, the schools could accomplish only a 6 percent decrease in the pupil-teacher ratio at the elementary level and had to accept a slight increase in the ratio at the secondary level. At that, they had to fill substantial numbers of teaching positions with persons lacking full certification. (See Table 3.)

By the mid-1960s, however, the large baby-boom cohorts were entering the college-ages and state and federal programs aimed at spurring post-secondary enrollment rates were well underway. Enrollments in colleges

Table 3

TEACHERS IN THE PUBLIC SCHOOLS: ALTERNATE YEARS, 1956-1974

YEAR	CLASSROOM TEACHERS (in thousands)	PUPIL-TEACHER RATIO		NO. OF CLASSROOM TEACHERS LACKING FULL CERTIFICATION (in thousands)
		Elementary	Secondary	
1956	1,199	29.6	21.2	N.A.
1958	1,306	28.7	21.7	60
1960	1,408	28.4	21.7	93
1962	1,508	28.5	21.7	83
1964	1,648	27.9	21.5	83
1966	1,789	27.0	20.4	91
1968	1,936	25.4	20.5	108
1970	2,055	24.3	19.8	N.A.
1972	2,103	24.0	19.1	N.A.
1974	2,131	22.7	18.7	N.A.

SOURCE: National Educational Association, Teacher Supply and Demand in Public Schools 1958, Washington, April 1958, p. 17. U.S. Department of Health, Education, and Welfare, Projections of Educational Statistics to 1975-76, U.S. Government Printing Office, Washington, 1966, p. 40. U.S. Bureau of the Census, Statistical Abstract 1975, U.S. Government Printing Office, Washington, 1976, p. 129.

and universities soared. By the late 1960s, colleges and universities were annually producing two to three times the number of new teachers they had been turning out in the 1950s. But the first waves of the baby boom had passed through the elementary and secondary schools by then. While large numbers of children were entering school for the first time each year, nearly as many were completing secondary school. The rate of growth in enrollments began to slack off and schools were finally able to recruit teachers in numbers sufficient to bring down class sizes.

After a brief catch up period, the labor market for teachers came into balance toward the end of the 1960s. But the forces which brought an end to the shortage of teachers continued to grow. By the early 1970s elementary and secondary enrollments leveled off with no concomitant decline in the number of teacher graduates and the nation was in the midst of a full-blown teacher surplus.

THE LABOR MARKET FOR TEACHERS

The mechanism by which human resources are allocated among productive activities is the occupational labor market which, like any market, is an abstraction of bargaining interactions between buyers (employers) and sellers (potential employees). In theory, an unfettered market will automatically balance the supply of and demand for any commodity including labor--and surpluses or shortages will be averted--through continuous adjustments in prices. The early waves of the baby boom should have triggered a series of wage adjustments, precluding the teacher shortages that plagued the educational system in the 1950s and early 1960s. Teachers' salaries should have grown rapidly, relative to salaries in other occupations, inducing more and more people to seek teaching positions and simultaneously forcing schools to cut back on the numbers of teachers they sought to employ. Similarly, the fall-off in the rate of enrollment growth that followed the baby bust should have set off declines in relative teachers' salaries, leading would-be teachers to seek employment in other occupations and making it possible for schools to employ larger numbers of teachers, thereby bringing an end to the surplus.

The explanation for the ostensible immunity to the laws of supply and demand in the market for teachers lies in several interrelated institutional

factors. Chief among these are an inability to develop rational measures of output, inflexibility in determining measures of input, an inflexible compensation system and, underlying these, the fact that education is almost exclusively a public sector enterprise. The labor force participation patterns of women, who account for the large majority of elementary and secondary teachers, also inhibits the market adjustment process.

Measures of Output

For centuries, wise minds and dull have failed to uncover measurable, reproducible relationships between what is brought to the educational process (inputs) and what emerges from it (outputs). But because the "value" of education is largely unquestioned, administrators proceed with a missionary's reverence for revealed truth. Lacking objective criteria for determining the quality of its output, education has turned to a preoccupation with inputs. In this, it relies on criteria molded in historical practive--the most hoary of which is the number of teachers needed for a given number of students.

This pronouncement of the largest and oldest teachers' association, the National Education Association of the U.S., in 1960.*

> . . . class size must be adjusted to the capacities of the very best teachers obtainable in large numbers. And the vast weight of experience places this need in the range of one teacher for 25 elementary school children . . .

represented no improvement on the opinions of the Hebrew sage Rava, expressed 1,600 years earlier:**

> The number of pupils to be assigned to each teacher is twenty-five. If there are fifty, we appoint two teachers. If there are forty, we appoint an assistant, at the expense of the town.

(Since 1971, the NEA has used 24 as its ideal elementary class size*** in apparent willingness to risk the vast weight of experience by one.)

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*National Education Association, Teacher Supply and Demand in Public Schools 1971, Washington, 1972, p. 25.

**B.T. Baba Bathra 21a.

***National Education Association, Teacher Supply and Demand in Public Schools 1971, Washington, 1972, p. 25.

One important effect of the sanctity of the pupil-teacher ratio as a criterion of quality is that the demand for teachers is relatively inelastic. In periods of teacher shortage, for example, school districts are unwilling to take such measures as expanding class sizes to reduce their demand for teachers, but rather insist on meeting their goals even to the point of hiring personnel who are un- or under-qualified according to their own standards.

Measures Of Input

The criteria for determining who is qualified to teach are as arbitrary and inflexible as the teacher-pupil ratio is for determining educational quality. Again, because the characteristics that make a competent teacher are not measurable, the qualifications to teach have been arrived at through the professional judgment of educators and they rest primarily on the teacher's own education. Some years ago certification required completion of a two-year teacher preparation course; today it is four years and some states are moving to a five-year certificate. (This increase in the training period is said to increase teachers' "professionalism;" it is not based on any demonstrated improvement in educational results.) Once in the profession, teachers can enhance their qualifications by acquiring further educational credits, regardless of their relevance to the teacher's assignment. Experience on the job also counts--in terms of years of service not in terms of demonstrated competence.

Certification requirements impede market adjustments in two ways. First, as with other professions, entry into teaching requires a lengthy training program conducted in institutions that are separate from, and independent of, the ultimate employer. In occupations where job training is relatively brief and under the control of employers, the response to changes in the demand for labor can be accomplished relatively quickly. But in teaching, as in law or medicine, shifts in supply lag behind shifts in demand not only by the time period required for training but also by delays arising from the communication gap between training and using institutions. Schools of education, for example, do not base their enrollment goals on projections of school district demand and school districts do not adjust their demand for teachers to the number of

students enrolled in schools of education.

Second, and perhaps more important, is the fact that as the profession is defined, the only people who can be hired to administer the educational process in the classroom are certified teachers. Since the art of "good" teaching cannot be (or has not been) anatomized, it is considered indivisible and the possession of certified teachers along. (In periods of shortage, unqualified or underqualified personnel may be hired only because maintaining the pupil-teacher ratio takes precedence over all other considerations.) Thus, where other employers may respond to market conditions by varying the mix of inputs or restructuring their processes to use fewer people with expensive skills, the schools are loath to hire anyone but a certified teacher for every position, whatever the cost.

Inflexible Wages

The compensation system used almost universally in teaching is the uniform salary schedule, under which within a given district all teachers with the same formal qualifications are paid the same salary rate. Salary systems in professions other than teaching recognize differences between individuals in both the nature of their skills and their ability to practice those skills effectively. In teaching, however, the salary differences among the teachers within a district depend solely on differences in educational credits and years of teaching. Teachers in a given district with the same amount of education and experience receive the same salary rate regardless of the type of skills they have (elementary teaching, secondary biology teaching, etc.) or their relative abilities.

The uniform salary schedule obviously arises from the same traditions as pupil-teacher ratios and teacher certification requirements and it exacerbates the rigidities imposed by them as well as imposing its own: It severely limits a school district's ability to make changes in its salary levels in response to market conditions. Districts can attempt to attract qualified teachers who have entered other occupations by offering them higher salaries only if the whole schedule is revised upward, i.e., if the same increment is paid to all other teachers. The cost of such

an adjustment is prohibitive.* Conversely, districts are barred by contractual agreements from lowering salaries and, since they must pay everyone according to the same schedule, they cannot offer lower salaries to prospective employees who in times of surplus would be happy to accept them.

In recent years, militant action on the part of teachers' unions to preserve the salary gains made during the past decades of teacher shortage further restricted market processes. Normally, in a period of manpower surplus, one would expect salaries to level off or even fall. But, while teacher salaries did not keep pace with inflation in the mid-1970s, they kept pace with salaries in most other occupations despite the growing teacher surplus.

A Public Sector Enterprise

These impediments to market processes escape serious challenge because education is a public sector activity; it is not marketed to customers at a price. In the private sector, the competition for customers imposes performance constraints, a continuing search for determinants of quality, and some flexibility in setting wages and prices. This is true throughout business and industry, and even in the professions whose "product" is as difficult to measure as education's: doctors or lawyers, for example, must satisfy the demand of their clients or be penalized by the loss of clients and hence income. The public schools, on ther other hand, have virtually no competition and therefore scant incentive to rationalize their practices. The majority of their customers cannot afford to take their business elsewhere in order to penalize an inferior "product." And, in any case, they must continue to pay school taxes so that whether their children attend private schools or not, they cannot penalize the public

*Suppose, for example, that a district employing 1000 teachers was unable to fill 10 additional positions at its starting salary of, say, $8,000 per year. It might be able to obtain nine additional teachers if it could offer them $9,000 and might be willing to make do with them, leaving one position vacant. But, to increase the starting salary $1,000, the district would have to raise the entire salary schedule by that amount (or more, if it had to maintain the relative salaries of various levels on the schedule). The cost of those nine additional teachers would then be $1,081,000 or about $120,000 apiece. It is likely that the district would maintain its salary schedule and accept the "shortage" of 10 teachers. A district unable to meet its needs for teachers having certain skills is in a similar position even if teachers lacking those skills are readily available.

schools by denying them "income."*

Similarly, the publicly supported institutions that train teachers have little incentive to anticipate the demand for their product; their budgets are based on the amount of "raw material" they have on hand, not on their "sales." Most businessmen presented with a rapid build-up of unsold inventory would be quick to lay off workers, shut down facilities, and embark on a market survey. But the responsibility for anticipating changes in the demand for teachers does not lie with teacher training institutions, nor indeed with any of the parts that make up the whole of the education system.

The Reserve Pool of Teachers

Women account for about two-thirds of all elementary and secondary school teachers and their labor force participation patterns exert a decided influence on the labor market. A predominant characteristic of the teaching profession, and of other occupations that employ a high proportion of women, is the existence of a "reserve pool" of qualified teachers who have left (or never entered) the profession to raise families. These reserve teachers often return to the market after their own children have entered school. Thus, at any time there is a substantial number of trained teachers who are not participating in the labor force but who may at some future date attempt to reenter the teaching profession.

The size of the reserve pool and, consequently, its contribution to supply of teachers is unknown. The NEA estimates that in 1960 the reserve pool included over 300,000 teachers, of whom about 18.3 percent (about 55,000 persons) sought teaching positions.** Today's reserve pool, swelled by the large cohorts of college graduates trained to teach during the 1960s and early 1970s, is certainly much larger. One study, for example,

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*Educational voucher systems, if introduced on a large scale, may remedy this problem. Presently, however, few such systems have been implemented and the schools remain isolated from the "discipline of the market."

**National Educational Association, Teacher Supply and Demand in Public Schools 1974, NEA Rsearch Memo, Washington, May 1975, p.3.

suggests that there were over 1.4 million reserve teachers in 1970.* If 18.3 percent of them attempted to enter classrooms in 1970, something like a quarter of a million reserve teachers would have sought teaching positions that year. By comparison, the total number of new college graduates qualified to teach that year was about 300,000 of whom roughly a quarter are likely to have voluntarily pursued some occupation (including homemaking) other than teaching.** Thus, in 1970, reserve teachers may have made up half of the total supply of teachers.

Moreover, it is likely that the proportion of reserve teachers activity participating in the teacher labor market today is larger than was the corresponding proportion in 1960. Then, few teachers involuntarily entered the reserve pool; teaching positions were generally available and the teachers in the reserve pool were there because they chose to engage in some other occupation to teaching. Today, the reserve pool includes large numbers of teachers who want to teach but are excluded from education because there are not enough teaching positions to accommodate them. And the unemployed or underemployed teacher is much more likely to seek a teaching position than is the teacher who opted for a different occupation. We can speculate that the reserve supply comprises as many as 20 to 30 percent of a pool comprising 1.5 to 2 million persons.

A teacher reentering the labor force from the reserve pool is likely to have been out of the labor force for several years and to have had, at most, only a few years of work experience, and that in teaching, before withdrawal. For most reserve teachers, then, the alternative to teaching is relatively low-paid, menial jobs in the secretarial/clerical/sales occupations. The possible need to reassume full-time responsibilities in the home during the summer months, when their own children are out of

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*Edward Rattner, Burton Dean, and Arnold Reisman, "Supply and Demand of Teachers and Supply and Demand of Ph.D.s," unpublished paper, Case Western Reserve University, Cleveland, Ohio, June 1971, p. 44.

**The NEA reports that in the 1950s and early-through mid-1960s, roughly 70 to 75 percent of the new graduates qualified to teach entered teaching positions each year. As teaching jobs were readily available throughout that period, we can assume that roughly a quarter of new graduates qualified to teach opted out of education, at least temporarily. See the NEA's annual reports, Teacher Supply and Demand in the Public Schools, Washington.

school, must also be considered. Thus, the reentry patterns of many reserve teachers do not reflect a response to conditions in the labor market for teachers. Rather, exogenous factors (e.g., past patterns of family formation) largely determine the numbers of reserve teachers who will attempt to enter teaching positions in any given year.

There are, to be sure, significant numbers of trained teachers engaged in other labor market activities; they, too, are members of the reserve pool. For these people, the decision to seek a teaching position represents a choice between one form of labor market activity and another--a choice presumably influenced by conditions in the labor market for teachers. But the use of uniform salary schedules limits the responsivelness of this component of the reserve pool. Because teachers are paid according to their education and teaching experience, experience and skills gained in other labor market activities cannot be compensated. Teachers who have entered alternative occupations that offer advancement with experience would begin at the bottom of a district's salary schedule were they to enter a teaching position. Only those teachers who find themselves in jobs offering little advancement are likely to consider teaching an attractive alternative; and jobs offering few opportunities for advancement also tend to be low-paying.

THE DYNAMICS OF THE MARKET AND PROSPECTS FOR THE FUTURE

Despite the rigidities in the market for teachers, an adjustment process of sorts is operating. In the absence of a freely adjusting salary structure, unemployment and underemployment among teachers is growing. Students entering colleges and universities are responding to the poor employment prospects of graduates of teacher training programs by entering those programs in dwindling proportions, just as college entrants had responded to the ready availability of teaching positions during the shortage years by enrolling in teacher preparation programs at increasing rates.

In the teacher shortage era of the early 1960s, a growing percentage of college graudates at the bachelor's degree level were completing teacher preparation programs. As the teacher shortage eased into a teacher surplus in the late 1960s and early 1970s, the teacher production rate slowly drifted downward. And, as the surplus grew into the early 1970s, the proportion of bachelor's degree recipients who were qualified to teach dropped sharply.

Over the 1964-1975 period, which saw a transition from general shortage to general surplus, the rate at which college graduates were preparing to teach dropped 40 percent. (See Table 4.)

A data base developed by the American Council on Education (ACE) offers further insight into what is likely to happen to teacher production rates in the future. In an annual national survey of entering college freshmen, the ACE obtains data on their career plans and intentions. Table 5 summarizes some of the results of those surveys. The trends in the data are obvious. Since 1968 the rate at which entering college freshmen have indicated that they intend to pursue a teaching career has rapidly declined. By 1975 the proportion of entering college freshmen who expected to enter the teaching profession had fallen to less than one-third of the proportion of entering college freshmen in 1968 who aspired to careers in elementary and secondary education.

It seems reasonable to expect this adjustment process to continue into the future. That is, the proportion of entering college freshmen entering teacher preparation programs is likely to continue to drop so long as the shortage persists. If this adjustment process does continue, annual supplies of new teachers, which have already begun to decline, will continue to fall and must eventually fall below the annual demand for teachers. At that point, schools must begin to tap the reserve pool, reducing its size. The teacher surplus will begin to decline once the reserve pool is sufficiently reduced that the sum of the new supply and reserve supply of teachers falls relative to the demand for teachers. But there will still be a surplus, albeit smaller and smaller, for some years. And so these processes should continue until, eventually, the surplus ends. Thus, the market is operating to restore balance between the supply of and the demand for teachers.

The end of the teacher surplus, however, is not the end of the story, for the same lag structure which brings the surplus to and end will automatically engender a subsequent teacher shortage. The level of teacher production depends on the career choices made by the students who entered college four or more years earlier. The size of the reserve pool, given the demand for teachers, depends upon the career choices made by college entrants throughout the previous two or three decades. And its

Table 4

TEACHER PRODUCTION RATES: 1966-1973

YEAR	NO. OF BACHELOR'S DEGREES GRANTED (in thousands)	NO. OF BACHELOR'S DEGREE RECIPIENTS QUALIFIED TO TEACH (in thousands)	TEACHER PRODUCTION RATE (percent)
1960	368	130	35.3
1961	369	129	35.0
1962	388	142	36.6
1963	416	154	37.0
1964	466	174	37.4
1965	501	190	38.0
1966	520	171	33.0
1967	558	183	32.9
1968	632	203	32.1
1969	728	230	31.5
1970	792	244	30.7
1971	840	266	31.6
1972	887	264	29.8
1973	922	255[a]	27.6[a]

NOTE: [a]Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, The Condition of Education 1976, U.S. Government Printing Office, Washington, 1976, p. 197. National Educational Association, Teacher Supply and Demand in the Public Schools, Washington, Annual.

Table 5

ESTIMATED PERCENTAGES OF ENTERING FRESHMEN
INTENDING TO PURSUE A TEACHING CAREER:
1966 - 1975

YEAR	PROPORTION INTENDING TO PURSUE A TEACHING CAREER		
	Male	Female	Total
1966	11.3	34.1	21.7
1967	11.2	36.4	22.4
1968	12.7	37.5	23.5
1969	10.9	36.5	22.1
1970	9.6	31.0	19.3
1971	7.5	24.8	15.4
1972	5.7	19.5	12.1
1973	4.1	14.1	8.8
1974	3.8	11.9	7.7
1975	3.2	10.3	6.5

SOURCE: American Council on Education, The American Freshman: National Norms, Washington, Annual.

size will change from one year to the next only to the extent that current teacher production differs from the sum of (1) the current change in the demand for teachers and (2) teacher production 20 to 30 years ago. Assuming a roughly constant demand for teachers, the surplus will continue as long as the supply of eligible new graduates plus the reserve supply exceeds the net demand. Even if teacher production rates and, consequently, supplies of eligible new graduates decline sharply, the surplus will persist until the reserve pool is substantially reduced. That will occur only after a series of years in which the number of teachers produced fails substantially below the numbers produced decades years earlier.

The important point is that this inertia works in the opposite direction as well. Suppose that the surplus is ended in, say, 1985. The situation in that year will be approximate equality between net demand and the sum of reserve supply and new supply. But that balance will have been achieved through declines in both components of supply. And those declines will continue, at least for awhile. The students who entered college in the preceding two or three years will have made curriculum choices during a period of teacher surplus and, presumably, only a small proportion of them will have entered teacher preparatory programs. Thus, the annual numbers of new teachers produced will continue to decline; the reserve pool will contract yet further; and the supply of teachers will grow yet smaller. After three or four years, the college students who entered after the end of the surplus will begin to graduate, teacher production will begin to grow, and annual new supplies of teachers will begin to grow. But the reserve pool and, conseuqently, the supply of reserve teachers, will continue to contract until new teacher production climbs to levels greater than the levels of new teacher production 20 to 30 years earlier. And since the surplus is not likely to end until teacher production has fallen well below the levels of 20 to 30 years earlier, this climb will require some time.

In sum, it appears that if and when the surplus ends, absent some prior policy intervention, the inertia in the system will lead to the almost immediate onset of a substantial and lengthy teacher shortage.

Depending on the element of timing, several other demographic forces may deepen or prolong the shortage. First, by the mid-1980s, the initial large cohorts of teachers produced in the mid-1950s will be reaching

advanced ages. Increasing numbers of active teachers will retire, and persons not actively engaged in teaching are likely to begin withdrawing from the active reserve pool. Both effects will accelerate the contraction of the reserve pool. Second, school enrollments, previously level, will start to rise two to three percent annually in 1985, assuming a continuation of current (Census Series E) fertility levels. (Refer to Table 10.) (This rise in enrollments would accelerate substantially if the fertility rate increases.) Third, the number of persons turning 22 years old (roughly the age at which newly qualified teachers emerge from college) will begin to decline about 4 percent annually starting in 1986 (Table 10). There will be a pause in this decline between 1989 and 1992, followed by a more precipitous decline of about 16 percent in the following 3 years (echoing the post-1970 decline in births).